



WASTE AUDIT

South Carolina SMART BUSINESS RECYCLING PROGRAM

A Smart Business can save money on disposal costs as well as conserve natural resources and energy through waste reduction activities such as waste prevention, reuse and recycling. Take advantage of the suggestions listed below to help identify the type of waste generated and opportunities to avoid disposing of that waste in a landfill.

A waste audit helps provide your company with an approximate measurement of waste generated as well as examine current waste management practices and costs. The information gained from a waste audit can be invaluable in developing a waste management plan that includes waste reduction and recycling. This tip sheet includes a work sheet on current waste operations and a waste audit form.

Before you begin the waste audit, consider the following steps.

STEP 1: Check the records.

- **Take a look at your current waste hauler's records.** Find out how much waste is being removed from your facility on a weekly or monthly basis and what the cost is per container.
- **Review purchasing records.** This will help you gain perspective of what and how much material is brought into your facility.
- **Check production records.** There may be opportunities for a manufacturing business to reduce waste by avoiding overruns. These records also may provide information about how much scrap is generated during production.

STEP 2: Designate an audit team.

Consider involving members from all areas of the facility. Someone in the maintenance department may know the operations in a certain area better than someone working in human resources. A team of three or four is usually enough for a small- to medium-sized facility. Expect the waste audit to take a few hours.

STEP 3: Gather supplies.

Several supplies may be needed depending on the thoroughness of the waste audit being performed. You may need: a broom/shovel; a camera (digital or video); cardboard boxes; a clipboard; a dustpan; a first aid kit; pens and/or markers; trash bags (plastic); rubber gloves; a scale; a copy of this tip sheet; and plastic sheeting or a drop cloth. Remember to wear old clothes, long pants, long sleeves and closed shoes.

STEP 4: Begin the waste audit.

- **Choose to collect all waste generated in a single day or select an otherwise representative sample** (totaling about 50 lbs.) from the various collection containers (e.g., dumpster). The latter is more appropriate for larger companies.
- **Determine the size and location of the area in which you will sort the waste.** If large quantities of waste will be sorted, a large, flat area such as a parking area works well. It may be possible to use large indoor rooms for smaller waste sorts. Obtain building management approval and work with them to conduct the waste audit when it will cause the least disruption – likely after work hours.

- **Record the type of material found** as well as calculate percentages by material type for the waste stream. Use the worksheet provided. To get accurate measurements, use a scale.
- **Properly manage material** once all of it has been recorded or weighed. Recycle as much as possible.

ANOTHER OPTION: Perform visual audits.

If time is limited, another option is to perform visual audits in conjunction with a walk-through of each area. Visual audits usually involve looking into trash receptacles and estimating the amounts and types of waste generated in various areas around the facility.

Waste Audit Follow-Up

Once your company has a better understanding of what waste is generated, it is better equipped to determine the best ways to reduce, reuse and recycle. Here are some easy steps that may help.

- 1. Reduce and reuse.** With information gathered from the waste audit, look over purchasing and production records again. Are there any ways that these processes can be adjusted to reduce waste or reuse material (e.g., is there excess packaging that could be eliminated)?
- 2. Recycle.** Recycling may save you money in avoided disposal costs and may also generate revenue through the sale of recyclables.

Remember to find a market for your recyclables. For market resources, visit www.scdhec.gov/environment/lwm/recycle/smart_business/what.htm.

- 3. Educate employees.** It is vital that all employees know about any new waste management procedures, including waste reduction and recycling. Send e-mails or post bulletins giving instructions on the proper procedures for different types of material. Don't forget to include custodial staff. Even if they are a contracted employee, they need to know the correct procedures.

- 4. Track and evaluate the program.** Remember to:

- establish a record-keeping system to help track the effectiveness of the waste management plan;
- track cost savings; and
- evaluate the program at least once a year and adjust when needed.



The South Carolina Smart Business Recycling Program is a partnership of the S.C. Department of Health and Environmental Control's Center for Environmental Sustainability, Small Business Environmental Assistance Program and Office of Solid Waste Reduction and Recycling. The program provides a variety of services to help businesses reduce waste, recycle and develop sustainable practices.

Current Waste Operations Work Sheet

I. DISPOSAL

Name of hauler: _____

List all collection points inside and outside the building:

Amount currently collected: _____

Frequency of collection: _____

Average bill: _____

Billing frequency: _____

Bills based on weight or volume? _____

Where is waste finally disposed (which landfill)? _____

II. RECYCLING

List current recycling efforts: _____

Material collected: _____

How are they collected? _____

Total amount recycled: _____

Percentage of overall waste currently recycled: _____

Recycling revenue: _____

Recycling costs: _____

Avoided disposal costs (i.e., savings accrued by not paying for material to be hauled to landfill): _____

Begin the waste audit.

- Assemble the waste to be sorted, using either one day's worth of waste or an otherwise representative sample of waste from your facility.
- Weigh the empty containers that the sorted waste will be placed into and record these weights on a label on each container.
- Sort the waste sample by major material type categories (paper, plastic, glass, metal, compostable organics, other).
- If needed, further sort each major material types into more specific component subcategories (e.g., glass could be sorted into clear, green, brown or other).
- Place the sorted material into separate labeled containers.

Calculate the net material category weights.

- Weigh each filled waste container and subtract the weight of the container to obtain the net material type weight. Record the net material type weight on the space provided on the Waste Audit Form, column A (on page 3). If you are not sorting into more detailed material subcategories, proceed to Part C below.
- If you sorted the material types into subcategories, add their net weights and record the total net material weights on the Waste Audit Form.
- Add all the total material type weight figures to determine the total sample weight and record this total at the bottom of the Waste Audit Form.

CALCULATE THE PERCENT TO TOTAL SAMPLE WEIGHT.

- Use this formula to calculate the percentage each material type represents of the total sample weight.

$$\frac{\text{net material type weight}}{\text{total sample weight}} \times 100 = \text{percent of total sample weight} \%$$

- Record data in column B on Waste Audit Form. Use the data in the Percent of Total Sample Weight column to create a pie chart to help compare the percentages of the different material types in the waste stream.

ESTIMATE TOTAL ANNUAL WASTE GENERATION BY MATERIAL.

- If you sorted one (typical) day's worth of waste, estimate the weight of waste generated for each material type annually using the following formula.

$$\frac{\text{net material type weight}}{\text{weight}} \times \frac{\text{\# of working days per year}}{\text{days per year}} = \text{weight of material generated annually}$$

- If you sorted a representative sample, first weigh or estimate all the waste generated by your company that day. Calculate the amount of waste generated annually for each material type by using the following formulas.

$$\frac{\text{total sample weight (all types)}}{\text{total waste amount generated per day}} = \text{sort multiplier}$$

$$\frac{\text{net material type weight}}{\text{sort multiplier}} \times \frac{\text{\# of working days per year}}{\text{days per year}} = \text{annual weight of material}$$

- Repeat the appropriate calculation (A or B) for each material type and record on Waste Audit Form, Column C. Note, this process does not include any materials currently being recycled. The intent is to focus on identifying waste streams currently being disposed of in landfills. If your company wants to know the total tons generated, add in the quantity of any materials known to be recycled per year.

WASTE AUDIT FORM

AUDIT SPECIFICS			
Date of Audit:		Department(s):	
Source of Sample:			
Sample Collected (specify weight):		<input type="checkbox"/> All Waste	<input type="checkbox"/> Representative Sample
			POUNDS
Total Weight of Waste Generated on Audit Date:			POUNDS
Team Members Conducting the Audit:			
Factors Affecting the Audit:			

MATERIAL	COLUMN A Net Material Type Weight	COLUMN B Percent of Total Sample Weight (All Material Types)	COLUMN C Weight of Material Type Generated Annually
PAPER			
Green bar computer paper			
White ledger paper			
White form-feed paper			
White copy paper			
White ledger pads			
Cash register receipts			
Adding machine tape			
Envelopes			
Windowed envelopes			
Colored paper			
Yellow legal pads			
Letterhead			
Message pads			
Newspapers			
Magazines			
Corrugated cardboard			
Cardboard tubes			
Mixed waste paper			
Unwanted mail			
Coated stock			
Stick-on notes			
Paperboard (e.g., cereal boxes)			
Paper plates/cups			
Napkins/towels			
Tissue paper			
Wax-coated paper			
Plastic-coated paper			
Carbon paper			
Other paper			
PLASTIC			
#1 PET (e.g., soda bottles)			
#2 HDPE bottles (e.g., milk jugs)			
#2 HDPE film			
#3 Vinyl bottles, pipe, siding			
#4 LDPE film			
#5 Polypropylene			
#6 Polystyrene foam			
#6 Rigid polystyrene			
Other plastic			

